



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,728	01/26/2004	Lothar Stadelmeier	282727US8X	2657
22850	7590	07/09/2007	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				PHAN, MAN U
ART UNIT		PAPER NUMBER		
		2616		
NOTIFICATION DATE			DELIVERY MODE	
07/09/2007			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/765,728 Examiner Man Phan	STADELMEIER ET AL. Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 January 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3,5-7 and 11-13 is/are rejected.
 7) Claim(s) 4 and 8-10 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 26 January 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/26/04</u> . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. The application of Stadelmeier et al. for the "Method for operating an RLAN arrangement" filed 01/26/2004 has been examined. The preliminary amendment filed 01/26/2004 has been entered and made of record. This application claims foreign priority based on the application 03 002 025.9 filed January 28, 2002 in European Patent Office (EPO). Receipt is acknowledged of papers submitted under 35 U.S.C 119(a) – (d), which papers have been placed of record in the file. Claims 1-13 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks TM, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the

printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The Abstract of the disclosure is objected to because it contains the legal phraseology "said" (line 4). Correction is required.

Claim Objections

4. Claims 11 is objected to because of the following informalities: The claims contains the phrase "*capable of*". It has been held that the recitation that an element is "*capable of*" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 12, 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, specifically, as directed to "computer program product" or "a software routine". The claimed "computer program" product or "software routine" of claims 12, 13 is non-statutory as at no time in the claim does applicant define the software routine. A

computer program per se is not in one of the statutory categories. A computer program must be claimed in combination with an appropriate computer readable medium so that the program is capable of producing a useful, concrete and tangible result when used in a computer system

Claims 12-13 are direct to “a computer program” product, which is not supported by either a specific asserted utility or a well established utility. Claims 12-13 merely defines “*a computer program product*” or “*data record for storing instructions*”, and is not directed to statutory subject matter. The claims appear to be nothing more than a signal not tangibly embodied in a manner so as to be executable and thus non-statutory for failing to be in one of the categories of invention. It’s not tangibly embodies and non-functional descriptive material - data per se. Therefore, what applicant is attempting to claim as a computer program product or data record as is known in the art. The claim is actually drawn to non-functional descriptive material stored on a machine readable medium. The description given in the specification does not cure this problem. In practical terms, claims define non-statutory processes if they simply manipulate abstract ideas, e.g., a bid or a bubble hierarchy, without some claimed practical application, Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59; Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759.

7. Claims 12-13 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 5-7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188).

With respect to claims 1-3, 5-7 and 11, the references disclose a novel system and method for detecting and avoiding interference with radar signals in wireless network devices, according to the essential features of the claims. McFarland et al. (US#6,697,013) discloses in Fig. 1 a schematical diagram illustrated an RLAN arrangement includes the coverage area overlap and interference problems associated with 5 GHz WLAN systems. In system 100, two

independent networks 103 and 105 are installed near to each other. Within their respective coverage areas, access points (AP) 102 and 104 provide access to a fixed backbone network such as an Ethernet LAN or an IEEE 1394 network. Each network 103 and 105 also includes a number of mobile terminals (MT) wirelessly coupled to their respective network access points. Each mobile terminal can associate and dissociate with access points in the radio coverage area. The two radio coverage areas A and B are shown to overlap, thus illustrating the possibility of interference between the WLAN devices (mobile terminals and/or access points) in the coverage areas. The core fixed networks for the access points are in general not the same, and therefore there is no coordination between the two independent coverage areas. Digital Frequency Selection (DFS) within each independent wireless network may be used to control the radio frequency to allow independent WLANs to co-exist in overlapping zones. DFS techniques allow each access point to choose a frequency with sufficiently low interference; and other mechanisms, such as Transmission Power Control (TPC) reduces the range of interference from terminals, increasing spectral efficiency via more frequent channel re-use within a given geographic area. As illustrated in FIG. 1, a radar system 107 comprising a radar source 106 operating in coverage area C may also overlap one or more of the coverage areas operated by an access point. The radar source could be a fixed radar source, such as a radar transmitter, or it could be a mobile radar source, such as an airplane. The overlap between coverage area C and coverage area B illustrates potential radar interference with the WLAN traffic between access point 102 and its respective mobile terminals. In one embodiment of the present invention, access point 102 includes a radar detection and avoidance system that enables the WLAN system 103 to detect the interfering radar signals, possibly identify the radar source 106 (if its signature

or profile is known), and switch to a channel that is free of the radar interference. For system 100 in Fig. 1, access point 102 includes a radar detection system that detects the presence of interfering radar signals. It is assumed that the access point equipment operates in the frequency ranges of 5.15 GHz to 5.35 GHz. This frequency range is generally divided into ten channels of 20 GHz each. Of these, typically eight are available for use by the access point. Upon initialization, for a given channel, the access point listens to detect whether any radar signals are present. If a radar signal is present, the access point WLAN device switches to another channel, until it finds one that is free of radar signal traffic. This allows the dynamic selection of frequencies within the 5 GHz frequency space to avoid interfering with radar sources (Col. 2, lines 45 plus and Col. 3, lines 15 plus).

In the same field of endeavor, Khun-Jush et al. (US#7,024,188) teaches a method for use in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals and the signals exchanged between a plurality of wireless broadcasting nodes in the system. Khun-Jush discloses a method for use in a wireless communications system with a plurality of broadcasting nodes, comprising the step of enabling one node in the system to function as a central node in said system and letting said node enable measurements on at least one frequency in a frequency band used by the system. Said measurements are carried out to detect if said at least one frequency is being utilized by a transmitter foreign to the system. Preferably, the measurement is enabled by means of the node transmitting a message to other nodes in the system, said message being a message pre-defined within the system as a message prohibiting all nodes from transmitting during a certain interval, said message being transmitted after the system

has been detected by the node to be silent during a predefined interval between frame transmissions from the nodes in the system (the Abstract and Col. 15, lines 61 plus).

It's also noted that Wireless Local Area Network (WLAN) devices must coexist with radar in the 5 GHz frequency bands. Interference mitigation techniques are required to enable WLAN devices to share these frequency bands with radar systems. The general requirement is that these devices detect interference, identify the radar interfering sources, and avoid using the frequencies used by the radar. Dynamic Frequency Selection (DFS) is used as a spectrum sharing mechanism by certain standards committees that define rules dictating the use of the 5 GHz space. For example, the European Telecommunications Standards Institute (ETSI), which is involved in developing standards for Broadband Radio Access Networks (BRAN), requires that transceiver equipment for use in HIPERLAN (High Performance Radio Local Area Networks) employ DFS mechanisms to detect interference from other systems to enable avoidance with co-channel operations with these other systems, notably radar systems. The goal is to provide a uniform spread of equipment loading across a number of channels, such as fourteen channels of 330 MHz each, or 255 MHz each for equipment used only in bands 5470 MHz to 5725 MHz.

One skilled in the art of communications would recognize the need for a novel system and method for operating an RLAN arrangement, and would apply Khun-Jush's novel use of signaling measurement in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals into McFarland's system for detecting and avoiding interference with radar signals in wireless network devices. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Khun-Jush's wireless communications system with detection of foreign radiation sources into McFarland's radar

detection and dynamic frequency selection for wireless LANs with the motivation being to provide a system and method for operating an RLAN arrangement.

Allowable Subject Matter

11. Claims 4, 8-10 are objected to as being dependent upon the rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

12. The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein the communication units (10, 20) or communication nodes (10, 20) perform as the monitoring units the step or process of monitoring and/or detecting the presence of signals of or from external radio sources or radar sources (100) at most in a receiving state and/or in a monitoring state, in particular during receiving periods and/or idle monitoring periods of a non-transmit phase and/or a MAC frame; wherein within the receiving/transmitting periods and/or in the receiving/transmitting state the monitoring units are continuously adjusted and/or set to a receiving/transmitting power level, which enables a stable service receipt or stable receipt of internal signals of the RLAN arrangement, and which enables a detection of the presence of signals of or from external radio sources or radar sources (100) down to a given and predefined threshold, in particular with the given sensitivity level or sensitivity threshold; where upon detection of an interference pattern by a wireless terminal (WT) a message CHANNEL_INTERFERENCE_DETECTION announcing a detection of an interference pattern

is send from said detecting wireless terminal to a central controller (CC) and/or wherein upon receipt of a message CHANNEL_INTERFERENCE_DETECTION announcing a detection of an interference pattern a message CHANNEL_INTERFERENCE_DETECTION_ACK indicating the acknowledgement of the message CHANNEL_INTERFERENCE_DETECTION is sent by the central controller (CC), as specifically recited in the claims.

13. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Lappetelainen et al. (US#6,671,495) is cited to show the method for transmitting measurement data in a wireless communication system and a wireless communication system.

The Tanoue (US#6,041,238) is cited to show the channel assignment method in mobile communications system.

The McHenry (US#7,146,176) is cited to show the system and method for reuse of communications spectrum for fixed and mobile applications with efficient method to mitigate interference.

The Wilcoxson et al. (US#6,865,166) is cited to show the interference management of a processing communications satellite.

The Benveniste (US#6,615,040) is cited to show the self configurable wireless systems spectrum monitoring in a layered configuration.

The Choi et al. (US#7,206,840) is cited to show the dynamic frequency selection scheme for IEEE 802.11 WLANS.

The Barnes et al. (US#4,829,554) is cited to show the cellular mobile telephone system and method.

The Vigier et al. (US#2005/0043047) cited to show the communication system with detection of extra system interference.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about

Art Unit: 2616

the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

07/02/2007.

Man U. Phan
MAN U. PHAN
PRIMARY EXAMINER